A B S T R A C T of the D I S C L O S U R E

Coriolis Mass Flow Rate/Density/Viscoy Sensor with Two Bent Measuring Tubes

This sensor (10) generates accurate measuring results, for example with an error in the order of 0.5% of the measuring value, hat has mimimized production costs as well as a shorter overall length compared to that of conventional sensors. The sensor has two parallel V shaped measuring tubes (1, 2) each being of one-piece construction. Each tube has a straight inlet portion (11, 21), a straight outlet portion (12, 22), an inlet bend (13, 23) connected with the inlet portion, an outlet bend (14, 24) connected with the outlet portion, a straight tube portion (15, 25) connected with the inlet bend, a straight tube portion (16, 26) connected with the outlet bend, and a vertex bend (17, 27) connected with the first and second straight tube portions. The inlet portions (11, 21) are fixed in an inlet manifold (18) and the outlet portions in an outlet manifold (19); the manifolds (18, 19) are mounted in a support frame (30) which forms part of a housing (3). An excitation arrangement (6) causes the measuring tubes (1, 2) to vibrate as a tuning fork. Interspaced sensor elements (7, 8) are fixed to the measuring tubes. Mounted in the support frame (30) is a feedthrough (37) for a printed-circuit board (96) having conducting tracks (97) to which leads (63, 64, 73, 74, 83, 84) of the excitation system (6) and of the sensor elements (7, 8) are connected.